



THE OPPORTUNITIES OF DIGITIZING PAYMENTS

How digitization of payments, transfers, and remittances contributes to the G20 goals of broad-based economic growth, financial inclusion, and women's economic empowerment

A report by the World Bank Development Research Group, the Better Than Cash Alliance, and the Bill & Melinda Gates Foundation to the G20 Global Partnership for Financial Inclusion.

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Digitizing payments and remittances is vital to achieving G20 goals. The G20's focus on financial inclusion directly contributes to its core goal of achieving strong, sustainable, and balanced growth. Studies show that broader access to and participation in the financial system can reduce income inequality, boost job creation, accelerate consumption, increase investments in human capital, and directly help poor people manage risk and absorb financial shocks.

Strong action on financial inclusion by G20 countries and other key stakeholders will contribute significantly to key G20 policy objectives by:

- Spurring broader and stronger economic growth, by deepening financial intermediation and increasing efficiency of and access to payment, savings, insurance, and credit services.
- Increasing life opportunities and economic benefits for migrant and diaspora communities, by enabling a sharp reduction of costs and increased transparency of remittances.
- Increasing women's economic participation, by facilitating greater control over finances, household incomes, and budget decisions.

Rapid development and extension of digital platforms and digital payments can provide the speed, security, transparency, and cost efficiency needed to increase financial inclusion at the scale required to achieve G20 goals.

In 2010, the G20 endorsed Principles for Innovative Financial Inclusion to provide guidance for policy and regulatory approaches (G20, 2010). This paper builds on that guidance, synthesizing the evidence that the widespread adoption of digital payments in all their forms, including international and domestic remittances, can be instrumental in reaching the goals of the G20:

- **Digitizing helps overcome the costs and physical barriers** that have beset otherwise valuable financial inclusion efforts.
- **Digital platforms offer the opportunity to rapidly scale up access to financial services** using mobile phones, retail point of sales, and other broadly available access points, when supported by an appropriate financial consumer protection framework.
- **Digital payments can promote women's economic empowerment by facilitating greater account ownership and asset accumulation and increasing women's economic participation.** Digital payments, particularly by governments and employers, enable the confidentiality and convenience women require in financial services. Payments provided via an account can provide the on-ramp to financial inclusion and in many cases the first account that a woman has in her own name and under her control. Opening an account can be an important first step for introduction to the formal economy for an entrepreneur and can lead to formalization of her small business.

While the opportunities abound, so do the challenges. There are real and complex barriers for governments to address through vision and leadership. Governments must address regulatory concerns, work with the private sector to develop infrastructure that can reach rural areas, and ensure interoperability and competition among providers and financial capability among their citizens. There is also a real and growing momentum on the part of governments, the private sector, multilateral development banks, and development partners in this direction, but with 2.5 billion people still outside the formal financial system, there is an urgent need for these issues to be more prominent in the agenda of governments.

In the short term, we call on governments, when they meet in November 2014 at the G20 Brisbane Summit, to discuss how they can embrace a broad-based digital financial system as a path to growth, greater participation of women in the economy, and greater access to payments, including remittances.

We encourage Turkey to carry forward the good work that Australia has begun within the Global Partnership on Financial Inclusion (GPII) on these issues, particularly with their work on remittances, markets, and payments. By the end of the 2015 G20 Summit hosted by Turkey, we call on governments to make progress and report back on the following steps:

1. Digitize payments and receipts, including social transfers.

Digitizing has the potential to dramatically reduce costs, increase efficiency and transparency, help build the infrastructure, and broaden familiarity with digital payments. When governments shift their social, salary, and procurement payments and taxation and licensing receipts to electronic form, it creates a foundation upon which the private sector and person-to-person payments, such as international and domestic remittances, can build.

2. Engage actively on the regulatory agenda.

Some regulators are still hesitant to embrace the digital financial revolution that is emerging, and have reasonable concerns that need to be specifically addressed. Governments need to encourage regulators to enable digital financial services in order to achieve G20 goals. Specifically, regulation should:

- Foster competition by enabling a broad range of providers to introduce new vectors of financial services.
- Ensure that consumer protection and risk-based prudential and integrity requirements are met.
- Address the cost of entry and encourage business model innovation for e-money issuers, retail agents, and account opening processes.
- Encourage new business models to address the critical concerns that confront regulators, including anti-money laundering and counter financing of terrorism (AML/CFT). The Financial Action Task Force (FATF) has issued guidelines that address these concerns, and many countries are successfully implementing the guidelines. Brazil's approach, with mobile payments regulations that allow nonbanks to offer payments and savings and to directly access the central bank's clearing and settlement system, is paving the way for a number of new commercial partnerships to go to market. Mexico's approach of tiered know-your-customer regulations is providing more flexibility for private-sector providers who participate in the distribution of government payments, and enabling the development of new product design.

- 3. Convene public and private sectors to create a basic payment infrastructure to enable competing product development.**

Public and private sectors can converge around a payments platform, and enable innovation and competition in additional financial services. A safe, reliable, secure, and affordable platform, open and shared among market participants, will act as the catalyst of financial inclusion and will foster adoption of basic financial services at a large scale.
- 4. Create an environment that fosters private sector innovation.**

The private sector is a critical partner in this endeavor, and there is a real opportunity to catalyze private-sector growth. Yet governments need to offer a clear vision and tangible incentives in order to ensure that the private sector is an effective, competitive, transparent, and efficient partner. Part of this requires that a level playing field be set up, whereby governments do not create disproportionate hurdles for a broad and growing range of providers to participate in the global financial system. Limiting innovation and competition will ultimately lead to noncompetitive solutions in the market and reduce the availability of reliable, safe, and secure financial systems. Empowering a diverse range of private-sector providers will increase competition, reduce costs, empower consumers, increase the scale needed for sustainability, and drive financial inclusion.
- 5. Guide digital financial service providers to educate consumers and small businesses about their options to increase confidence, competence, and adoption.**

Recipients should understand, for example, how the cash-transfer program works, the importance of PIN numbers, what to do if something goes wrong, and how they can save some or all of the payment rather than withdrawing all of it upon receipt. Without this, there is a risk that recipients could lose trust in the system, and financial inclusion objectives would not be achieved. Evidence indicates that consumers and small businesses rapidly learn how to be competent and comfortable in using these systems when they are appropriately designed, convenient, and efficient.
- 6. Recognize that remittance providers offer a digital entry point to formal financial services for senders and receivers.**

This means family members who are sending international and domestic remittances can send more money home. Instead of remittances being cashed out, remittances sent to a bank account, e-wallet, or smart card, for example, can go into accounts that support safe saving and also increase transparency and traceability.
- 7. Look to multilateral development banks and comparable agencies as sources of comparative expertise in this emerging field.**

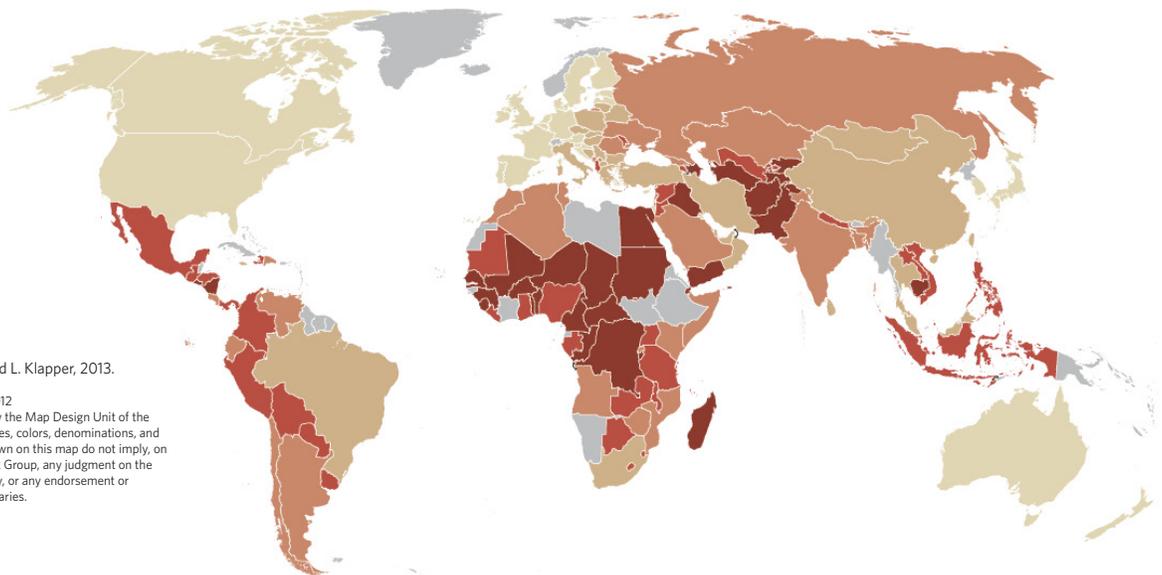
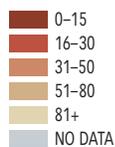
Governments may need technical assistance and resources as they undertake this agenda. It is particularly important that development banks pay focused attention to the role of women in the economy and develop special advice on the economic resource presented by women.

There is now a great opportunity for the G20 collectively to develop robust, specific initiatives under each of these action headings. Only governments have the authority to be prime movers on much of this agenda, especially with respect to regulatory reform, driving electronic payments via payroll and social benefit disbursements, but in partnership with the private sector.

Financial inclusion is broadly defined as both access to and usage of appropriate, affordable, and accessible financial services. Comparative global data finds that the use of a deposit account at a bank or other formally regulated financial institution varies widely across regions, economies, and individual characteristics. Worldwide, 50 percent of adults report having an individual or joint account at a formal financial institution, according to data from the Global Findex database (Demirgüç-Kunt and Klapper, 2012). But current statistics on the high rate of financial exclusion, particularly in developing countries and among women, illustrate key challenges for policymakers to address:

- Globally, more than 2.5 billion adults do not have a formal account.
- Only about one out of every five adults living on less than \$2 (U.S.) per day has a formal account—that means nearly 80 percent of poor adults are excluded from the formal sector.
- While accounts are nearly universal in high-income economies, with 89 percent of adults reporting that they have an account at a formal financial institution, less than half that number of adults in developing economies is banked: only 41 percent.
- For women in developing countries, the situation is worse: Only 37 percent have formal accounts, compared to 46 percent of men.

Adults with an account at a formal financial institution (%)



Demirgüç-Kunt, A. and L. Klapper, 2013.

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Without access to the formal financial system, women, poor people, small businesses, and otherwise excluded people must rely on their own (extremely limited) informal and semiformal savings and borrowing to finance educational and entrepreneurial investments, thus making it harder to alleviate income inequality and spur broad-based economic growth. However, those who are excluded from the formal financial system are likely to be recipients of payments¹—not just wages and government-sponsored social transfers, but also, increasingly, remittances from family members who have left home in search of economic opportunity either elsewhere in the country or abroad.

Indeed, Global Findex data also highlights the important role that deposit accounts can play in the financial lives of adults in low-income countries when they do indeed have accounts, especially with regard to the receipt of formal payments, such as wages, government transfers, or remittances. While only 24 percent of adults in low-income countries have an account, less than 40 percent of account holders in those countries use their accounts for such payments.

Meanwhile, innovations in the payment sector have led to the emergence of electronic payment service providers able to facilitate formal payments even in the absence of accounts, such as over-the-counter (OTC) payments, mobile money payments, and payment cards.

Improving access to financial services has progressed steadily on the G20 agenda since leaders first committed to the effort at the Pittsburgh Summit in 2009 and then endorsed the nine Principles for Innovative Financial Inclusion at the Toronto Summit in 2010. At the Seoul Summit, also in 2010, leaders established the Global Partnership for Financial Inclusion (GPFI) to carry forward work on financial inclusion, including implementation of the G20 Financial Inclusion Action Plan.²

In this paper, we review the body of research that has emerged on digital payments—defined as payment alternatives to cash— including domestic and international remittances, and then suggest steps that all stakeholders—governments, the private sector, and the international development community—can take to hasten the spread of digital payments.

In the first section, we review the benefits of digital payments for governments, recipients, and providers. Not only do digital remittances lower costs for the senders and recipients of payments, but they also increase access to the banking system, the privacy and transparency that they afford, and security throughout the system. This has the added advantage of giving a significant boost to women's economic empowerment.

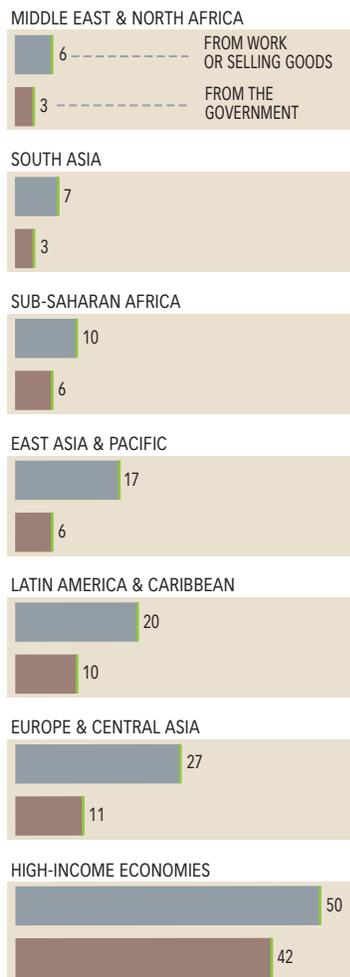
In the next section, we explore the challenges that face countries around the world as they look to increase the use of digital remittances. For example, to put in place a robust system of digital payments requires significant physical infrastructure— not just mobile telecommunications, but also accessible cash- out points. Also, the literature shows that one cannot ignore the human element: New users of digital payments need to be educated about how to use them, the other banking options they open up, and how the overall system works, as well as why it should be trusted.

The third section offers suggestions for governments and the private sector on how they can facilitate the spread of digital payments within their countries and globally. Governments can lead by example, both by using digital payments themselves and by creating a regulatory environment conducive to digital innovation. The private sector can continue to innovate, invest in infrastructure, leverage public-private partnerships, and create and maintain convenient, reliable, and secure networks. And the international development community can act as both a resource of expertise and a facilitator of digital payment expansion, where appropriate.

Ultimately, overcoming the challenges of moving toward digitized payments will help accomplish goals at the heart of the G20 countries' efforts to encourage inclusive economic growth around the world.

USE OF ACCOUNTS TO RECEIVE PAYMENTS

Adults using an account in the past year to receive payments (%)



Demirgüç-Kunt, A. and L. Klapper, 2013. "Measuring Financial Inclusion: Explaining Variation in Use of Financial Services across and within Countries." *Brookings Papers on Economic Activity*, 279-340.

A Gallup, Inc. survey of 11 countries in Sub-Saharan Africa found that more than 80 percent of adults make bill payments or remittances with cash (Kendall et al., 2014). Given the lack of digital-payment penetration, governments, consumers, and financial providers in Sub-Saharan Africa are still bearing the high cost of cash payments—costs associated with manual acceptance, record keeping, counting, storage, security, and transportation.

Yet, advancements in technology and electronic-platform-based business models have allowed many governments to increase the efficiency and scope of their electronic payments infrastructure. For example, a 2011 study of 62 developing and high-income countries (representing approximately 81 percent of the total world population) found that over 77 percent of countries have an e-payments system in place for social security contributions by citizens, and around 84 percent of countries researched have electronic and/or automated systems for vehicle-related payments such as fines and tolls (EIU, 2012).

Digital payments have many benefits, to both senders and receivers. Moving from cash-based to digital payments has the potential benefits of making payments more efficient by lowering the cost of disbursing and receiving payments; increasing individuals' risk management capacity; increasing the privacy of payments; increasing control over the funds received; increasing the security of payments and reducing the incidence of crimes associated with them; increasing the transparency of payments, and thus making it less likely for there to be leakage between the sender and receiver; increasing the speed of payments; and providing a first entry point into the formal financial system.

In short, the benefits of digital payments go well beyond convenience; if provided efficiently and effectively, they can transform the financial lives of those who use this technology.

BENEFITS FOR GOVERNMENTS WHEN THEY DIGITIZE PAYMENTS

Increased transparency Given the liquidity and transactional anonymity of cash, cash payments are subject to "leakage" (payments that do not reach the recipient in full) and "ghost" (fake) recipients, particularly in the context of government transfers. By moving toward digital payments, the traceability of the payment process is improved. First, recipients have digital records of the amount of the payments they are to receive. Second, digital payments generally require more stringent identification documentation, making it harder for ghost recipients to remain undetected.

Evidence from India shows that making social security pension (SSP) payments digitally via smart cards compared to manual cash payout at the village level by a government official results in a 1.8 percentage point lower incidence of bribe demands for obtaining the payment (compared to an incidence of 3.8 percentage points for manual cash payments: a 47 percent reduction) and the incidence of ghost recipients fell by 1.1 percentage points (Muralidharan et al., 2014).

Lower costs Moving from cash payments to digital payments can lead to significant cost savings in the long term. The potential cost savings are especially striking when considering large-scale government-to-public payments, such as social transfers.

- A rigorous evaluation of a social transfer program in Niger has shown that the variable cost of administering social transfer is 20 percent lower by mobile transfer than by manual cash distribution (Aker et al., 2013).
- In South Africa, the cost of disbursing social grants in 2011 by smart card was a third that of manual cash disbursement (R13.50 compared to R35.92) (CGAP, 2011b).
- A study estimates that the Mexican government's shift to digital payments (which began in 1997) trimmed its spending on wages, pensions, and social welfare by 3.3 percent annually, or nearly \$1.3 billion (Babatz, 2013).
- A study by the management consulting firm McKinsey & Co. estimates that automating the delivery of government payments could save the Indian government approximately \$22.4 billion (U.S.) per year resulting from reduced overhead, transaction costs, and fraud (Lochann et al., 2010).
- In Brazil, the Bolsa Família program reduced its transaction costs from 14.7 percent of total payments to 2.6 percent when it bundled several benefits onto one electronic payment card (Lindert et al., 2007).

BENEFITS FOR RECIPIENTS OF DIGITAL PAYMENTS

Lower costs Data for 123 countries show that greater ownership and use of accounts is associated with a better enabling environment for accessing financial services, such as lower account costs and greater proximity to financial intermediaries. The results suggest that digital payments that reduce the cost and increase the convenience of financial transactions may expand the pool of eligible account users and encourage existing account holders to use their accounts with greater frequency and for the purpose of saving (Allen et al., 2012). Recipients of cash payments in rural areas often have to travel a considerable distance to designated locations such as a bank branch, money transfer operator (MTO), counter, or government office, which may only be available in a regional capital, in order to receive a remittance or government transfer or make a bill payment. This results in significant travel time and travel expenses, and is further costly in terms of income forgone while traveling and waiting to collect a payment.

- In Niger, researchers from Tufts University found that administering social transfers by mobile transfer reduced overall travel and wait time to a quarter of the time required to collect manual cash transfers. Recipients of mobile transfers reduced travel time to a cash-out point by 40 minutes compared to manual cash distribution, which does not include the additional three hours in wait time involved in the average manual cash transfer. Digital transfers thus can translate into significant travel cost and time savings, increasing the time that can be spent instead on productive tasks (Aker et al., 2013).
- The authors of the study in Niger calculated that, based on average agricultural wages, the time savings attributable to the digital transfer channel for each payment translated into an amount large enough to feed a family of five for a day (Aker et al., 2013).

Increased control Digital payments allow remitters greater control over money sent home. Randomized studies suggest that migrants value and take advantage of opportunities to exert control over savings in their home country. There is also consistent evidence that migrants have preferences over the extent to which remittance recipients in the home country use remittances, in particular how much of the remittances are saved (McKenzie et al., 2014).

- Researchers found that migrants to the United States were much more likely to open savings accounts at a partner bank in El Salvador, and accumulated more savings at the partner bank, if they were offered an account with the greatest degree of monitoring and control. Migrants desired savings accounts in their name only, as opposed to accounts in the name of someone in El Salvador or joint accounts. (Ashraf et al., 2014).
- In a field experiment, over 27 percent of a sample of Filipino migrants in Rome were interested in a product to directly pay remittances to schools in the Philippines. In a related lab experiment, the authors find that the “soft” commitment of simply labeling remittances for education raises remittances by more than 15 percent (De Arcangelis et al., 2014).

Increased incentive to save Only 22 percent of adults worldwide report having saved at a formal financial institution in the past 12 months, and 77 percent of adults living on less than \$2 a day report not having an account at a formal financial institution (Demirgüç-Kunt and Klapper, 2012). Digital payments create the opportunity to embed poor people in a system of automatic deposits, scheduled text reminders, and positive default options that can help people overcome psychological barriers to saving. A substantial collection of literature shows that small “nudges” may have a significant impact on forward-looking financial and nonfinancial behaviors in settings as diverse as defined-contribution pension accounts, insurance products, and commitment savings products (Choi et al., 2004; Ashraf et al., 2010; Karlan et al., 2012; Karlan et al., 2014).

- Randomized control trials conducted in Bolivia, Peru, and the Philippines find that digital text “goal-specific” savings reminders (e.g., for housing, school fees) increased savings by 16 percent (Karlan et al., 2014).
- Researchers found in Malawi that direct deposit of cash crop receipts into savings accounts helped boost farmer productivity. The farmers who were offered this option and chose to participate ended up investing 13 percent more in farm inputs than those who weren’t offered the option and received their crop sale proceeds in cash. Participating farmers saw a 21 percent increase in value of crop output and an 11 percent increase in household consumption after the harvest (Brune et al., 2013).
- “Undersaving” could result in large part from inertia—if workers are automatically included in a direct-deposit 401(k) plan unless they opt out, participation is much higher than if workers must affirmatively sign up for the plan (Orszag and Orszag, 2005). A study in the United States found that setting automatic enrollment in 401(k) plans as the default option led to a 50 percent increase in participation (Madrian and Shea, 2001).
- Research in Kenya found that ATM cards with reduced transaction fees and more convenient access to cash had a negative effect on women’s use of accounts; this is largely attributed to the reduced control it afforded them over the cash (Schaner, 2013). The research suggests that women may prefer savings accounts with controls (or security features) that make it more difficult to accede to their spouses’ demands on them and their funds.

Increased risk management Digital payments also connect individuals to the broader economy and can strengthen informal insurance networks. Electronic networks allow families to expand their “community,” and can help households smooth unexpected income shocks by accessing money or support from a community wider than those physically proximate.

- Researchers found that, in Kenya, M-PESA users were able to absorb large negative income shocks (such as severe illness, job loss, or harvest failure) without any reduction in household consumption. In contrast, statistically comparable households who weren’t connected to M-PESA experienced, on average, a 6-10 percent reduction in consumption in response to similar shocks. Furthermore, following a shock, households with access to M-PESA received funds from a larger network of senders, and from senders located further away. Digital payments thus appear to both facilitate the receipt of payments as well as strengthen and expand informal insurance networks among poor households (Jack and Suri, 2013).
- Over a four-year period in Rwanda, researchers studying the quasi random timing and location of natural disasters found that people send mobile money to individuals affected by economic shocks. The recipients of shock-induced transfers also have larger social networks (Blumenstock et al., 2013).
- A mobile operator and an insurance company in Kenya jointly offer micro-insurance to farmers to protect them against drought or excessive rains. The program protects more than 10,000 smallholder farmers in Kenya against extreme weather conditions. Weather stations automatically send data on rainfall to the insurance company, triggering payouts via mobile money payments, when too little or much rainfall is recorded. An estimated 46 percent of their clients are women (Manfre and Nordehn, 2013).

Improved speed and timely delivery In contrast to a cash payment that travels at the speed of its carrier, digital payments can be virtually instantaneous, regardless of whether the sender and receiver are in the same town, district, or country. This means that employees are paid on time, which might reduce demand for payday loans and informal loans to meet monthly expenses. Especially in emergency situations that lead to unexpected income shocks such as a health emergency or natural disaster, speed and timely delivery can be of the essence. In digital form, payments—be they remittances from abroad or government assistance in times of disaster situations—can be made without delay when the need is greatest.

Increased security Recipients of cash payments not only often have to travel considerable distances to receive their payments, but also are particularly vulnerable to street crime once they carry the cash, due to the liquidity and transactional anonymity of cash. While security is a concern when traveling with any large amount of cash, this concern is especially salient for regular cash payments, such as social transfer or wage payments, that are received at publicly known points in time. Digital payments can also be held more securely than manual cash payments. By reducing travel times to withdraw money, recipients can store value in either traditional accounts or e-wallets, and cash out smaller amounts at their convenience or directly transfer funds onwards to pay for bills such as electricity. At the same time, it is important to have in place systems to prevent security breaches of digital payment mechanisms (e.g., stolen account numbers).

- Evidence from the United States shows that when the government introduced the Electronic Benefit Transfer (EBT) in the mid-1990s and thus switched from delivering social cash transfers by paper checks, which needed to be cashed, to electronic debit cards, the overall crime rate over the next 20 years was reduced by almost 10 percent as a direct result. This corresponded to 47 fewer crimes per 100,000 people per county per month, as a direct result of switching welfare benefits from cash to credit. (Wright et al., 2014).

Increased financial inclusion Empirical evidence at the micro and macro levels shows that inclusive financial systems are an important component to economic and social progress on the development agenda (see Cull et al., 2014, for an overview). Digital payments are often the first entry point into the financial system for individuals and provide an opportunity to offer accounts—be they traditional formal bank accounts or so-called e-wallets (or payment cards) that provide a store of value functionality—to the unbanked for savings or payments.

However, the challenge is to encourage recipients of electronic payments to use their accounts for other financial transactions. For example, a study in Mexico shows that recipients of international remittances are more likely to have accounts, but not insurance, credit, or other financial products, suggesting big opportunities to foster financial inclusion on remittance recipients (Li et al., 2014). It can be practically feasible for financial services to be linked in some way to remittance services, such as savings accounts into which migrants can remit in the home country. For example, remittances sent directly to a recipient's bank account can facilitate access to loans and the use of the account for automatic bank loan repayments and can help build long-term savings. In very practical terms, offers of other financial services can occur when migrants are visiting a branch location of a financial institution to make a remittance transaction.

- Studies show that following the provision of accounts to poor households in Mexico and Nepal, new account holders continued to deposit and maintain balances in their accounts, which led to a significant increase in household savings (Aportela, 1999, and Prina, 2012, respectively). This evidence helps motivate government and private-sector initiatives to open new accounts for receiving electronic wage and social transfer payments.
- From Mexico, there is evidence that accounts opened through the social transfer program increased frequency of remittances received through formal payment channels (Masino and Niño-Zarazúa, 2014).
- The randomized introduction of mobile money in rural Mozambique led to users' increased marginal willingness to remit more frequently and to the substitution of mobile money for informal savings (Batista and Vicente, 2013).

Increases in women's economic participation and empowerment One of the significant benefits of moving to digital payments in both social transfers and remittances is that it can contribute to a G20 commitment of increasing women's economic participation and empowerment, and can do this through a number of channels.³

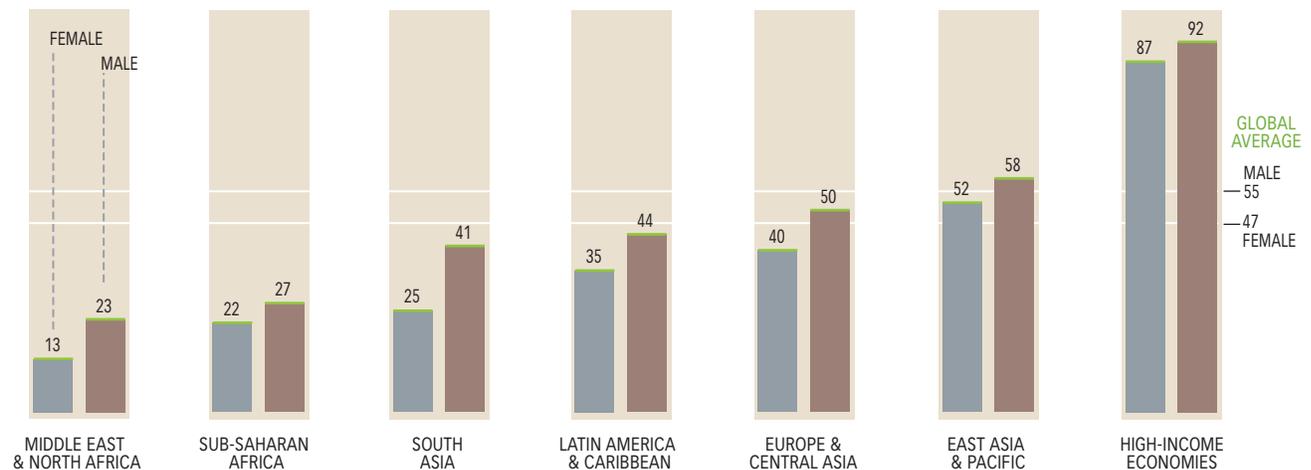
Evidence suggests that digital transfers empower women within their households (Docquier et al., 2009). This is particularly true for recipients of the social cash transfer, because, in contrast to cash payments, the arrival of a digital payment is often private information that allows the recipient to conceal the payment at least temporarily from

other household members or friends who may place demands on the use of the money (at the risk that recipients might also withhold funds from which the entire household is entitled to benefit). Sociocultural issues and other factors might prevent women from controlling their own money and assets. But electronic payment might give recipients greater agency with regard to how the money will be used, particularly if the payment is tied to a stored-value product, such as a formal account or an e-wallet, which makes it harder for family and friends to access the funds. It is also worth noting that women represent an increasing share of immigrants in high-income countries and that women are not only receivers, but also senders, of remittances (World Bank, 2014a).

- From the social cash transfer program in Niger, for instance, there is evidence that greater privacy and control of mobile transfers, compared to manual cash transfers, shifts intrahousehold decision-making in favor of women, i.e., the recipients of the social cash transfer (Aker et al., 2013).
- Field experiments find that providing access to personal formal savings instruments increases female empowerment (Ashraf et al., 2010) and consumption and productive investment of female entrepreneurs (Dupas and Robinson, 2009).
- In Kenya, the arrival of mobile money transfers increased women's economic empowerment in rural areas, by making it easier to request remittances from their husbands who migrated to urban areas for work (Morawczynski and Pickens, 2009).
- A large body of empirical literature suggests that income in the hands of women, compared to men, is associated with larger improvements in child health and larger expenditure shares of household nutrients, health, and housing (for an overview, see Duflo, 2012).
- The Global Findex data finds across 148 countries a positive and significant relationship between female labor force participation and female account ownership, but no similar relationship for men. This suggests that women might benefit more from having an account opened for them by someone else, such as an employer, and/or that only employed women can afford or have necessary documentation for an account of their own (Klapper et al., 2014).

ACCOUNT PENETRATION BY GENDER

Adults with an account at a formal financial institution (%)



Demirgüç-Kunt, A. and L. Klapper, 2013. "Measuring Financial Inclusion: Explaining Variation in Use of Financial Services across and within Countries." *Brookings Papers on Economic Activity*, 279-340.

BENEFITS FOR PROVIDERS OF DIGITAL PAYMENT SERVICES

Increased credit information and fewer nonperforming loans The inclusion of positive payment data in consumer credit files—such as utilities and telecommunications services bill payments—can potentially have a large impact on the financially excluded. Biometric identification of borrowers allows lenders to collect positive and negative credit information on loan performance. This information allows lenders to withhold future loans from past defaulters while rewarding good borrowers with better loan terms. While data collected from nonbank service providers can improve credit assessments, at the same time regulators should ensure against data misappropriations.

- A randomized field experiment in Malawi examined borrower responses to being digitally fingerprinted when applying for loans, in order to biometrically collect positive and negative credit information. This information allowed lenders to withhold future loans from past defaulters while rewarding good borrowers with better loan terms. The researchers found that fingerprinting led to substantially higher repayment rates for borrowers with the highest ex- ante default risk (Gine et al., 2014).
- In the United States, the inclusion of utility and telecom payment histories reduced the share of adults who were “unscorable” from about 12 percent to 2 percent and reduced the estimated loan default rate. The greatest benefits accrued to lower-income Americans, members of minority communities, and younger and elderly Americans. For instance, those earning less than \$20,000 (U.S.) annually saw a 21 percent increase in loan acceptance rates (Turner et al., 2012; Turner and Varghese, 2010).

II. THE CHALLENGES OF DIGITAL PAYMENTS

Despite the many benefits of moving from cash and paper-based payment instruments to digital payments, doing so has many challenges. However, achieving a digital system offers a dual win for providers and consumers.

SUPPLY-SIDE CHALLENGES

Safety and reliability An electronic payment system will not be effective and could even have adverse effects if it does not work well. Payment delays or working with agent networks in which liquidity is a problem can undermine an entire electronic transfer program, as recipients fail to trust or understand the new system. It is important to recognize that digital payment mechanisms can also have security breaches, such as card numbers or account numbers being stolen. A reliable payment system should also have safeguards to protect against fraud and cyber-attacks—and have an emergency contingency plan in place.

Interoperability of bank and nonbank financial service providers Making digital payments cost effective and sustainable for low-income, rural populations will require leveraging new technologies such as mobile phones, ATMs, POS terminals, and online services. Equally important, it will require ensuring that digital payments can be made across the many parties that people deal with financially, such as friends and family, employers, merchants, schools, utilities, and governments. No one provider or sector can justify an investment in all of these elements or handle the contractual requirements of dealing with so many players. Rather, multiple players must be able to interconnect where necessary to provide individuals with a wide range of services, and must be able to do so on fair and equitable cost and access terms.

Physical infrastructure Countries with advanced and broadly used payment and banking systems might already have a physical infrastructure in place to process digital payments. But in low-income countries with more rudimentary banking systems (whose infrastructure is concentrated in urban areas), developing an adequate physical network to deliver digital payments to all corners of the country is a significant challenge, one that is often underestimated, as we have seen in countries such as Haiti, Kenya, Uganda, and the Philippines (Zimmerman et al., 2014).

While the widespread use of mobile phones in low-income countries seemingly suggests it would be easy to provide digital payments by mobile transfer even in countries with the most rudimentary banking systems, widespread mobile phone use is not sufficient. Providing physical access to financial services or cash-in/out points and ensuring sufficient liquidity at access points, including in rural areas, remain the core challenges in moving toward digital payments.

Furthermore, digital payments also face significant infrastructure challenges. The lack of electricity with which to power mobile phones and cell towers, limitations in mobile network coverage, and poor roads and transport networks are all hindrances to the expansion of electronic financial services in rural areas.

The high cost of traditional brick-and-mortar bank branches concentrates financial access points in urban areas where higher population density makes them profitable. However, innovations such as mobile financial services and agent banking offer promise. Also, leveraging and modernizing existing infrastructure such as post offices can provide new opportunities to reach rural and low-income individuals in a sustainable, cost-effective manner. Moreover, providing access to financial services through ATMs or POS terminals can be viable even in small communities.

FOCUS:

THE INCREASING IMPORTANCE OF REMITTANCES

Remittances are household income received from family members and friends who have migrated domestically or internationally for work. They can be sent in cash, in kind, or more commonly by some form of electronic or digital transfer, through a variety of formal and informal channels. A review of recent academic studies makes clear that remittances, including south-south transfers, play an increasingly important

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Ultimately, while digital payments can be more cost effective in the long term, building an adequate physical infrastructure for reliable payments will require significant up-front investments.

Increasing cash-out points While digital payments can make payments more efficient, it is important to note that cash-out points are an important feature of the financial system, even in a digitized environment. Indeed, a reliable cash-out experience is key to the success of digital payments (Kendall and Voorhies, 2014).

Building an infrastructure that provides a reliable cash-out experience, however, remains a significant challenge, especially in rural areas that are typically net-recipients of remittance and social transfer payments. The experience of implementing digital government transfer schemes in Haiti, Kenya, the Philippines, and Uganda has illustrated some of the issues associated with such an effort (Zimmerman et al., 2014).

As a digital ecosystem evolves that allows recipients of digital payments to stay digital by making digital payments, cash-out constraints will lessen. However, even then, people will look for a reliable cash-out experience, and financial systems will need to deliver one.

Sticky prices Lower operating costs driven by new technology-enabled models do not always translate to lower fees paid by consumers. Some MTOs continue to charge a uniform level regardless of the transfer method (whether cash-to-cash, account-to-account, or mobile tools) in order to increase their profit margin or not to potentially upset their disbursing agents who operate in the cash-based system.

Building a digital ecosystem There is growing interest and political pressure for countries to rapidly shift from cash to electronic government payment programs. Yet it is important that countries first ensure sufficient technical capacity of their payment program and take the necessary program sequencing into account. For example, only by building a digital ecosystem that encourages users to keep funds digitally by offering store-of-value functionality and enabling digital bill payment products and digital payments at retailers will the cash-out constraint gradually be lessened. As long as digital payments are cashed out immediately upon receipt, their contribution toward financial inclusion, building a financial system, and reaping the benefits of moving beyond a cash-based payments system will be limited. This will be especially important in rural areas that are typically net-recipients of remittance and social transfer payments and where cash-management issues are a considerable challenge (Faz and Moser, 2013; CGAP, 2012).

Political economy issues A system that is hard to track, is less private, and entails the use of liquid currency creates opportunities for individuals at every step of the money transfer to skim off some of the funds. Thus, one can expect that those benefitting from the current status quo of cash payments may work to obstruct the movement to digital payments. This presents a political problem that individual countries may have to address in their own way.

DEMAND-SIDE CHALLENGES

Customer experience It is critical that recipients of electronic payments, especially cash transfers, feel comfortable with the payment process and financial instrument. This includes understanding the program, payment process, conditional payment calculation, and recourse mechanisms. If recipients do not understand how the program works or if payments are inconsistent, recipients will lose trust in the system.

FOCUS:

EXPANDING ACCESS TO DIGITAL PAYMENTS IN RURAL AREAS

Digitizing remittances can have an especially large impact on reducing costs in rural areas. More than 40 percent of international remittances are sent to rural areas (IFAD, 2013). Most domestic remittances go from urban to rural areas, where fewer financial institutions operate. Leveraging postal networks, mobile payment providers, and microfinance branch networks can offer unbanked rural residents access to form-

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Product design The benefits of digitalization are only realized if they are as or more ubiquitous, affordable, easy, proximate, and secure as cash. Technology-enabled products should be designed from an ease-of-transaction perspective.

Consumer education Poor recipients and those living in remote areas might not be familiar or comfortable with using a digital payment system. This is especially a challenge for social cash transfer programs that by definition often target the poorest people. Assuring basic financial literacy is necessary; for example, recipients should be educated about using and remembering their PINs, understanding how much money they should receive at each payout period, and knowing what to do if something goes wrong (Zimmerman et al., 2014).

Addressing these challenges is necessary for effective product adoption. For example, it is important that recipients know that they should not give their ATM card and PIN to other people to withdraw money for them. A study of a government cash transfer program to low-income women in Bangladesh illustrates some of the challenges that come with making digital payments to a population that is, for the most part, illiterate. Initially, many recipients did not understand the cash-out process at the banking agent, nor were they able to use an ATM on their own to withdraw payments, due to insufficient communication and a product design that was not tailored to the needs of the recipients. Subsequent education efforts focusing on how to use the digital payment product, and adjustments in the design of the product, eventually led to an increase in the understanding and use of the product (West and Lehrer, 2014).

Usage of accounts Another consideration is that digital payments, even when linked to an account, do not automatically translate into the use of formal accounts or savings products. Experience with social transfer programs in Brazil, Colombia, and Mexico has shown that recipients are unlikely to automatically use bank accounts for more than withdrawing benefits (CGAP, 2012). This may be due to a lack of knowledge that the payment is not lost if not withdrawn in full, unfamiliarity with formal financial products and the benefits associated with them, lack of clarity on whether there are costs associated with the use of the account, or a lack of trust that banks can keep the money safe. Realizing the full potential benefits of electronic payments via increased usage of payments and savings thus depends on products that allow for those uses and on clear communication regarding these features.

Gender disparities in mobile ownership Many digital financial services are accessed through mobile phones, but a 2010 survey (most recently available data) found that globally there are 300 million fewer women subscribers than men. In developing countries, women are roughly 21 percent less likely to own a mobile phone than men; regionally, the largest gender gap is in South Asia, where women are 37 percent less likely to own a phone than men (GSMA, 2013). Constraints that reduce women's access include cost (the primary reason); perceptions of women's need for mobile phones (by both women and men); fear of technology; and literacy levels. Greater access to and use of mobile services can provide women with digital access to health and education information, banking services, and tools for managing small businesses. And while women in some regions or circumstances may access a phone through other means, e.g., by borrowing a handset from family members, this ultimately reduces their control over what is becoming a valuable individual and household asset.

III. PROMOTING DIGITIZATION

Governments, the private sector, and the international development community all have important roles in making payment systems more efficient and more accessible to low-income consumers. Although all countries can benefit from digitalization, it is important to consider that specific roles will vary on a country-by-country basis by local market development and dynamics, regulations, and strength of institutions.

A ROLE FOR GOVERNMENT

Government effort is needed to facilitate the movement of financial transactions from cash to digital, especially with regard to reaching individuals in financially underserved areas. While the private sector is, for the most part, eager to introduce or expand on digital payments solutions, governments have an essential role to play by creating an enabling regulatory environment, promoting consumer protection and education, and playing a catalytic role in building a digital ecosystem. Promoting digital financial services, in close consultation with all the stakeholders involved, is especially essential for governments in countries where reaching individuals in underserved areas on a cost-effective, sustainable basis has so far been a challenge due to low population density and low incomes. Governments can:

Construct a supportive regulatory environment In order for the private sector to be able to provide digital payments solutions, it needs the space to develop innovative payment products. This means a regulatory environment that recognizes the contributions of financial sector players other than traditional banks, such as nonbank payment services providers and mobile network operators. These nonbank service providers and agents are important in reaching the poor, especially in rural areas.

Providing a clear and functional regulatory framework for these new players will be important to ensure both a level playing field between the different actors in the digital payment space and adequate protection of consumer funds. To that end, regulators will have to address defining who can provide financial services and act as agents. Regulators also must find the appropriate balance between promoting interoperability and letting the market decide.

Since moving toward digital payments will bring many individuals into the formal payments system for the first time, regulators should establish appropriate “Know Your Customer” (KYC) account opening and documentation requirements that do not have the unintended consequence of excluding legitimate businesses and consumers from the financial system. For example, documentation requirements for opening an account may exclude workers in the rural or informal sector, who are less likely to have wage slips or formal proof of domicile. Regulations should ensure that such safeguards also support financial inclusion, for both traditional bank accounts and digital e-wallets. Mexico’s approach to KYC—which provides tiered or “progressive” KYC—has been documented on behalf of the G20 GPMI by the Alliance for Financial Inclusion.⁴

Finally, regulators must coordinate with each other, especially across complementary sectors such as financial services and telecommunications.

Establish an appropriate financial consumer protection framework The potential access by consumers to digital services that go beyond basic banking functions, including credit, investments, and complex or bundled products, raises associated risks for consumer segments with weaker financial capability. There are also significant issues concerning fraudulent, misleading, and unfair commercial practices, and consumers require the right to dispute any unauthorized transaction. Data privacy and security are important issues to be raised, and governments should safeguard personal informa-

tion against loss or theft. Consumers should have access to appropriate (independent, impartial, and free) redress mechanisms.

Play a catalytic role in building a digital ecosystem The sheer volume of government payments, from salaries to pensions and social cash transfers, has the potential to add significant volumes of transactions to service providers. By moving its payments from cash to digital government can make a critical contribution to commercial viability of financial infrastructure in currently underserved areas, such as rural locations, and can help reach especially low-income households. This does not mean that a government itself will necessarily provide for these digital payments. Rather, in partnering with private-sector payment service providers, governments can help jumpstart the creation of digital payments infrastructure.

For example, consider Ecuador. In addition to high-income countries, such as Singapore, South Korea, and Sweden, Ecuador stands out in the extent to which various government transfers to citizens can be completed electronically. The country's Internal Revenue Service and the Ecuadorian Institute of Social Security facilitate various e-payments, including electronic tax refunds, social security payments, unemployment, workers' compensation, welfare, and government health benefits, among other payments (EIU, 2012).

Pakistan also has demonstrated government-to-persons (G2P) payment innovations. For example, when the Benazir Income Support Program (BISP), the largest social cash transfer program in the country, started in 2008, payments were delivered in person and in cash by the Pakistan Post. Starting in early 2010, BISP experimented first with smart cards and later with mobile phones. In February 2012, BISP transitioned to a new payment mechanism using magstripe debit cards that can be used widely throughout the country's financial system (Rotman et al., 2013).

Digital payments can take different forms. Examples include direct deposits into bank accounts, payment cards, and mobile payments. It is important for governments to carefully consider which type of digital payment channel is best suited for any particular case; this depends on a number of context- and country-specific factors including broad economic, demographic, and policy environment factors (Faz and Moser, 2013). For instance, in developed countries with advanced and broadly used banking systems, digital payments by direct deposit into bank accounts are already common. In low-income countries with more rudimentary financial systems that provide services to a limited segment of the population (primarily in urban areas), digital payments channels based on prepaid payment cards or mobile transfers may be more suitable.

Optimal channels may also vary within a country or within a specific payment type. For example, Brazil's cash transfer program, Bolsa Família, which makes payments to more than 13 million families, allows recipients to choose whether to receive the cash transfer through smart cards, through direct deposit into a no-frills bank account, or, in rare circumstances, through cash payment (CGAP, 2011a).

Promote product understanding Consumer education will be critical in convincing a largely unbanked population of the benefits of digital payments and winning their widespread acceptance. At the same time, it needs to be stressed that the onus is on the private sector to design digital payment solutions that are tailored to the needs of individuals and easy to understand. Consumers must be informed and assisted in how to use PINs, ATMs, and the other basics of digital payments technology.⁵

A ROLE FOR GOVERNMENT AND PRIVATE SECTOR ENGAGEMENT

Recognizing that governments need to establish an enabling environment that fosters low-cost innovative inclusive solutions by the private sector means that, in turn, the private sector can use its expertise and compete to provide low-cost innovative solutions in a sustainable manner. Without a vibrant private sector to build and maintain sustainable infrastructure and design appropriate products, governments will not be able to foster an inclusive and responsible digital financial ecosystem. A true public-private partnership is needed to drive innovative financial inclusion.

Support private-sector investment in infrastructure and the massive scale-up of cash-out points: agent networks This includes branches and agent networks for bank and mobile accounts, and in payment infrastructure for POS retail purchases.

Enable the private sector to develop networks that are convenient, reliable, secure, and private These four attributes are especially critical in promoting product elements that will be attractive to women. Studies show that women seek financial tools and services that meet these criteria because they correspond to a number of different constraints women face (GSMA, 2013): Distance and length of travel are not only inconvenient but can have significant costs and safety risks for both urban and rural women. Women are more likely than men to cite the lack of access to an agent as the reason they have not tried mobile financial services (GSMA, 2013). Where women's mobility is restricted to their homes, having access to a phone can facilitate financial transactions that otherwise would not be possible or would have to be mediated through other individuals.

Social norms that reduce women's control over income and other assets make privacy and security especially important, but not without complications. A global survey revealed that 68 percent of women who saved money in the home had lost it through theft or the demands of friends and relatives. They also reported spending their saved cash too easily. In Pakistan, among women who save in the home, only 67 percent consider it secure. And while women have benefitted from savings groups, their public design makes it easy to know when individual women have received a lot of cash (GSMA, 2013).

Foster the development of innovative business models This includes mobile money and agent banking ventures, for instance encouraging nonbank players—such as retailers, e-commerce platforms, and telecommunication firms—to join the system of financial services delivery and access providers.

An approach to drawing women into digital financial services is to expand efforts toward electronic salary payments where there is a large female workforce, such as the garment industry in India and Bangladesh, flower packing in Kenya, and other agricultural enterprises. Studies show that using digital financial payments can bring many workers into the formal sector for the first time, help workers save more effectively, offer security benefits on payday, boost mobile services, and reduce employer costs (Blumenstock, 2013; BGCCI, 2014).

FOCUS:

FOUR PRINCIPLES FOR PRIVATE SECTOR ENGAGEMENT

Of the nine G20 principles of innovative financial inclusion four give direction on private-sector engagement:

Diversity

Implement policy approaches that promote competition and provide market-based incentives for delivery of sustainable financial access and usage of a broad range of affordable services (savings, credit, payments and transfers,

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Create opportunities and an environment for cooperation Because of the high start-up costs and the often limited market incentives for private-sector entities to act, in many cases it may take private-sector organizations working with trade and labor organizations as well as governments to implement a digital payments solution. For example, electronic government payments can offer the unbanked access to basic deposit accounts.

National identification numbers can also function as payment cards and provide identification for banks and money-transfer operators. Identification systems have great potential for increasing financial inclusion if they are made easily available online to all financial service providers in a country. By developing a robust, online database of secure identification cards that can be easily verified, financial service providers can much more easily—and cheaply—conduct KYC and credit checks on potential customers, streamlining the account opening process and making access more convenient to users. The greater efficiency enabled by such systems can also go a long way in reducing the cost of service provision.

For example, with the Banco de Bogotá, the National Federation of Coffee (FNC) Growers of Colombia developed an Intelligent Coffee Growers Identity Card, which has a magnetic band and an intelligent chip that allows FNC-run cooperatives to pay farmers for their crops electronically, and the government to distribute subsidies to farmers electronically. Farmers can withdraw cash through associated ATM networks, and farmers—many of them unbanked—have the ability to buy agricultural inputs with an electronic payment mechanism. By year-end 2013, 450,000 small farmers had an intelligent identity card and received disbursements in subsidies and in credit of \$740 million (U.S.) in 5.3 million transactions (Mueller et al., 2013).

IV. CONCLUSION

As we have demonstrated, broader adoption of digital payments—with regard to both remittances and other payments—can significantly advance the global financial inclusion agenda and support the priority areas of the Global Partnership for Financial Inclusion (GPII). Not only are digital payments more efficient than cash payments, but their broader adoption also can reduce rates of corruption and violent crime, reduce the cost of government wage and social transfer payments, offer new pathways into the financial system for the disadvantaged, and, importantly, contribute to the ongoing objective of women’s economic empowerment.

The international community must work with both governments and the private sector to address the challenges of digitizing payments in order to achieve the potential benefits, especially when it comes to government “cash” transfers. These challenges include generating up-front investment in payments infrastructure, ensuring that recipients understand how each cash-transfer program works, and taking steps to guarantee reliable and consistent payments. It is also important that consumers are educated on the basic interactions involved in a digital payment ecosystem—using and remembering their PINs, understanding how much money they should receive at each payout period, and knowing what to do if something goes wrong. Otherwise, recipients can lose trust in the system and not use their accounts beyond withdrawing to collect their government payment—and the broader financial inclusion objectives will not be met.

Technology-enabled business model innovation can help build inclusive financial sectors that enable people to improve their lives. Governments, the private sector, and the international community should focus on addressing the challenges of a move toward making digital payments available to the billions of unbanked adults around the world.

REFERENCES

- Aggarwal, R., A. Demirgüç-Kunt, and S. Martínez Pería, 2011. "Do remittances promote financial development?" *Journal of Development Economics* 96(2), 255–264.
- Aker, J., R. Boumrijel, A. McClelland, and N. Tierney, 2013. "How Do Electronic Transfers Compare? Evidence from a Mobile Money Cash Transfer Experiment in Niger." Tufts University Working Paper.
- Allen, F., A. Demirgüç-Kunt, L. Klapper, and S. Martínez Pería, 2013. "Foundations of Financial Inclusion." World Bank Policy Research Working Paper.
- Aportela, F., 1999. "Effects of Financial Access on Savings by Low-Income People." Banco de Mexico mimeo.
- Ashenfelter, O., 2012. "Comparing Real Wages." National Bureau of Economic Research. NBER Working Paper 18006.
- Ashraf, N., D. Aycinena, C. Martinez, and D. Yang, 2014. "Savings in Transnational Households: A Field Experiment Among Migrants from El Salvador." *Review of Economics and Statistics*, forthcoming.
- Ashraf, N., D. Karlan, and W. Yin, 2010. "Female Empowerment: Further Evidence from a Commitment Savings Product in the Philippines." *World Development* 28(3): 333–44.
- Babatz, G., 2013. "Sustained Effort, Saving Billions: Lessons from the Mexican Government's Shift to Electronic Payments." Better Than Cash Alliance Evidence Paper: Mexico Study.
- Barua, R., G. Kartini Shastri, and D. Yang, 2012. "Evaluating the Effect of Peer-Based Financial Education on Savings and Remittances for Foreign Domestic Workers in Singapore." Working paper.
- Batista, C. and P. Vicente, 2013. "Introducing Mobile Money in Rural Mozambique: Evidence from a Field Experiment." Nova Africa Center for Business and Economic Development Working Paper Series.
- BGCC (Bangladesh German Chamber of Commerce & Industry), 2014. "Digitizing the Wages of Garment Workers." Feasibility study for Bill & Melinda Gates Foundation, Financial Services for the Poor team.
- Blumenstock, J., N. Eagle, and M. Fafchamps, 2013. "Motives for Mobile Phone–Base Giving: Evidence in the Aftermath of Natural Disasters." Working paper.
- Brune, L., X. Gine, J. Goldberg, and D. Yang, 2013. "Commitments to Save: A Field Experiment in Rural Malawi," World Bank Policy Research Working Paper 5748.
- CGAP (Consultative Group to Assist the Poor), 2011a. "CGAP G2P Research Project: Brazil Country Report." Washington, DC.
- CGAP (Consultative Group to Assist the Poor), 2011b. "CGAP G2P Research Project: South Africa Report." Washington, DC.
- CGAP (Consultative Group to Assist the Poor), 2012. "Social Cash Transfers and Financial Inclusion: Evidence from Four Countries." Washington, DC.
- Choi, J.J., D. Laibson, and B.C. Madrian, 2004. "For Better or for Worse: Default Effects and 401(k) Savings Behavior," from D. Wise, *Perspectives on the Economics of Aging*. Cambridge, Mass.: National Bureau of Economic Research.
- Clemens, M. and D. McKenzie, 2014. "Why Don't Remittances Appear to Affect Growth?" World Bank Policy Research Working Paper 6856.
- Clemens, M., C. Montenegro, and L. Pritchett, 2008. "The place premium: wage differences for identical workers across the US border." World Bank Policy Research Working Paper 4671.
- Clemens, M. and T. Ogden, 2014. "Migration as a Strategy for Household Finance: A Research Agenda on Remittances, Payments, and Development." Center for Global Development Working Paper 354.

- Cull, R., T. Ehrbeck, and N. Holle, 2014. "Financial Inclusion and Development: Recent Impact Evidence." CGAP (Consultative Group to Assist the Poor) Focus Note 9/2014.
- De Arcangelis, G., M. Joxhe, D. McKenzie, E. Tiongson, and D. Yang, 2014. "Directing remittances to education with soft and hard commitments: Evidence from a lab-in-the-field experiment and new product take-up among Filipino migrants in Rome." Working paper.
- Demirgüç-Kunt, A. and L. Klapper, 2013. "Measuring Financial Inclusion: Explaining Variation in Use of Financial Services across and within Countries." *Brookings Papers on Economic Activity*, 279-340.
- Demirgüç-Kunt, A., E. López Córdova, M.S. Martínez Pería, and C. Woodruff, 2011. "Remittances and banking sector breadth and depth: Evidence from Mexico." *Journal of Development Economics* 95(2), 229-241.
- Docquier, F., L. Lowell, and A. Marfouk, 2009. "A gender assessment of highly skilled emigration." *Population and Development Review* 35(2), pp. 297-321.
- Doi, Y., D. McKenzie, and B. Zia, 2012. "Who You Train Matters: Identifying Complementary Effects of Financial Education on Migrant Households." World Bank Working Paper 6157, Washington, DC.
- Duflo, E., 2012. "Women Empowerment and Economic Development." *Journal of Economic Literature* 50(4), pp. 1051-1079.
- Dupas, P., and J. Robinson, 2009. "Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya." National Bureau of Economic Research. NBER Working Paper 14693.
- EIU (Economist Intelligence Unit), 2012. "2011 Government E-Payments Adoption Ranking." Economist Intelligence Unit: New York.
- Faz, X. and T. Moser, 2013. "Advancing Financial Inclusion through Use of Market Archetypes." CGAP (Consultative Group to Assist the Poor) Focus Note 86/2013. Gallup, 2014. "Gallup World Poll." Available at <http://www.gallup.com>.
- Gibson, J. and D. McKenzie, 2010. "The Development Impact of a Best Practice Seasonal Worker Policy," World Bank Policy Research Working Paper 5488.
- Gibson, J. and D. McKenzie, 2012. "The Economic Consequences of Brain Drain of the Best and Brightest: Microeconomic Evidence from Five Countries." *Economic Journal* 122:560, 339-375.
- Gibson, J., D. McKenzie, and B. Zia, 2012. "The Impact of Financial Literacy Training for Migrants." World Bank Working Paper 6073, Impact Evaluation Series No. 57, Washington, DC.
- Gine, X., J. Goldberg, and D. Yang, 2014. "Credit Market Consequences of Improved Personal Identification: Field Experimental Evidence from Malawi." *American Economic Review* 102(6): 2923-54.
- G20 Financial Inclusion Experts Group ATISG Report, 2010. "Innovative Financial Inclusion: Principles and Report on Innovative Financial Inclusion from the Access through Innovation Sub-Group of the G20 Financial Inclusion Experts Group." Available at <http://aid.dfat.gov.au/Publications/Documents/G20financialinclusion.pdf>
- G20 Principles of Innovative Financial Inclusion 2010. Available at <http://www.gpfi.org/publications/principles-and-report-innovative-financial-inclusion>
- GSMA Mobile Money for the Unbanked, 2013. "State of the Industry 2013 Mobile Financial Services for the Unbanked" Available at: http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2014/02/SOTIR_2013.pdf
- IFAD, 2013. "The FFR Brief: Five Years of the Financing Facility for Remittances and the Road Ahead." The International Fund for Agricultural Development: Rome.
- Jack, B. and T. Suri, 2013. "Risk Sharing and Transaction Costs: Evidence from Kenya's Mobile Money Revolution." *American Economic Review* 204:1, 183-223.

- Karlan, D., M. McConnell, S. Mullainathan, and J. Zinman, 2012. "Getting to the Top of Mind: How Reminders Increase Saving." Working paper.
- Karlan, D., A.L. Ratan, and J. Zinman, 2014. "Savings By and For the Poor: A Research Review and Agenda." *Review of Income and Wealth* 60:1, 36-78.
- Kendall, J., J. Godoy, R.D. Tortora, and J. Sonnenschein, 2012. "Payments and Money Transfer Behavior of Sub-Saharan Africans." Mimeo.
- Kendall, J., R. Schiff, and E. Smadja, 2014. "Sub-Saharan Africa: A Major Potential Revenue Opportunity for Digital Payments." McKinsey & Company, February 2014.
- Kendall, J., M.R. Standish, D. Liu, and N. Naurath, 2013. "Remittances, Payments and Money Transfers: Behaviors of South Asians and Indonesians." Mimeo.
- Kendall, J. and R. Voorhies, 2014. "The Mobile-Finance Revolution: How Cell Phones Can Spur Development." *Foreign Affairs* March/April.
- Klapper, L., S. Singh, and A.M. Munoz, 2014. "The Gender Gap in the Use of Financial Services in Turkey." Mimeo.
- Li, J.J., J.C. Salinas, T. Ramírez, C. Hoyo, and C. Serrano, 2014. "Do remittances foster financial inclusion in Mexico?" BBVA Research: Financial Inclusion Economic Watch.
- Lindert, L., Hobbs, and de la Brière, 2007. "The Nuts and Bolts of Brazil's Bolsa Família Program: Implementing Conditional Cash Transfers in a Decentralized Context." World Bank Social Protection Working Paper No. 0709.
- Lochann, R., I. Mas, D. Radcliffe, S. Sinha, and N. Tahilyani, 2010. "The Benefits to Government of Connecting Low-Income Households to an E-Payment System: An Analysis in India." *Lydian Payments Journal* 2.
- Madrian, B. and D. Shea, 2001. "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior." *Quarterly Journal of Economics* 116:4, 1149-1187.
- Manfre, C. and C. Nordehn, 2013. "Exploring the promise of information and communication technologies for women farmers in Kenya." Cultural practice, LLC, MEAS Case Study #4. Urbana, USA: Modernizing Extension and Advisory Services (MEAS).
- Masino, S. and M. Niño-Zarazúa, 2014. "Social Service Delivery and Access to Financial Innovation." UNWIDER Working Paper 2014/034.
- McKenzie, D., C. Theoharides, and D. Yang, 2014. Distortions in the International Labor Market: Evidence from Filipino Migration and Wage Responses to Destination Country Economic Shocks. *American Economic Journal: Applied Economics*, forthcoming.
- Miller, M., J. Reichelstein, C. Salas, and B. Zia, 2014. "Can You Help Someone Become Financially Capable? A Meta-Analysis of the Literature." World Bank Policy Research Working Paper 6745.
- Morawczynski, O. and M. Pickens, 2009. "Poor People Using Mobile Financial Services: Observations on Customer Usage and Impact from M-PESA." World Bank, Washington, DC.
- Mueller, B., M. Gomez, and K. Ricketts, 2013. "An Evaluation of Extension Services of the Colombian Coffee Growers Federation." Mimeo.
- Muralidharan, K., P. Niehaus, and S. Sukhtankar, 2014. "Payments Infrastructure and the Performance of Public Programs: Evidence from Biometric Smartcards in India." National Bureau of Economic Research. NBER Working Paper 1999.
- Orozco, M., 2004. "The Remittance Marketplace: Prices, Policy, and Financial Institutions." Pew Hispanic Center Report.
- Orozco, M., E. Burgess, and L. Romei, 2010. "A Scorecard in the Market for Money Transfers: Trends in Competition in Latin America and the Caribbean." Inter-American Dialogue, mimeo.

- Orszag, J.M. and P.R. Orszag, 2005. "Individual Accounts: Lessons from International Experience." *Science* 309:5732, 250-251.
- Prina, S., 2012. "Do Basic Savings Accounts Help the Poor to Save? Evidence from a Field Experiment in Nepal." Case Western Reserve mimeo.
- Rotman Parker, S., K. Kumar, and M. Parada, 2013. "An Overview of the G2P Payments Sector in Pakistan." CGAP Report.
- Schaner, S., 2013. "The Cost of Convenience? Transaction Costs, Bargaining Power, and Savings Account Use in Kenya." Russell Sage Foundation Working Paper.
- Turner, M., and R. Varghese, 2010. "The Economic Consequences of Consumer Credit Information Sharing: Efficiency, Inclusion, and Privacy." PERC Press.
- Turner, M., P. Walker, C. Sukanya, and R. Varghese, 2012. "A New Pathway to Financial Inclusion: Alternative Data, Credit Building, and Responsible Lending in the Wake of the Great Recession." PERC Press.
- West, H. and R. Lehrer, 2014. "Working with the Poorest Women in Bangladesh." Available at <http://www.cgap.org/blog/working-poorest-women-pakistan>.
- World Bank, 2014a. "Report on the Remittance Agenda of the G20." Available at http://siteresources.worldbank.org/EXTFINANCIALSECTOR/Resources/282884-1400093105293/GPFI_Remittances_Report_Final072014.pdf
- World Bank, 2014b. "World Development Indicators." Available at <http://data.worldbank.org>.
- Wright, R., E. Tekin, V. Topalli, C. McClellan, T. Dickinson, and R. Rosenfeld, 2014. "Less Cash, Less Crime: Evidence from the Electronic Benefit Transfer Program." National Bureau of Economic Research. NBER Working Paper 1996.
- Yang, D., 2008. "International Migration, Remittances and Household Investment: Evidence from Philippine Migrants Exchange Rate Shocks." *Economic Journal* 118:528, 591-630.
- Yang, D., 2011. "Migrant Remittances." *Journal of Economic Perspectives* 25(3): 129-52.
- Yang, D., and C. Martinez, 2005. "Remittances and Poverty in Migrants' Home Areas: Evidence from the Philippines." In *International Migration, Remittances, and the Brain Drain*, eds. Ç. Özden and M. Schiff, 81-123. World Bank Policy Research Working Paper.
- Zimmerman, J., K. Bohling, and S. Rotman Parker, 2014. "Electronic G2P Payments: Evidence from Four Lower-Income Countries." CGAP (Consultative Group to Assist the Poor) Focus Note 93/2014.

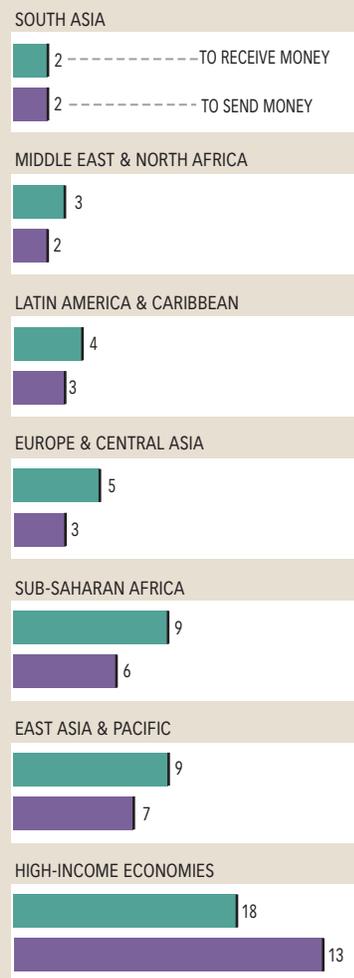
1. For ease of reference, by digital payments, we refer to transfers and payments of money from any sender to any recipient, cross border and domestic.
2. G20 Leaders Statement, Pittsburgh Summit, September 24-25, 2009, under section "Strengthening Support for the Most Vulnerable" #41. "We commit to improving access to financial services for the poor. We have agreed to support the safe and sound spread of new modes of financial service delivery capable of reaching the poor and, building on the example of micro finance, will scale up the successful models of small and medium sized enterprise (SME) financing. Working with the Consultative Group to Assist the Poor (CGAP), the International Finance Corporation (IFC), and other international organizations, we will launch a G20 Financial Inclusion Experts Group. This group will identify lessons learned on innovative approaches to providing financial services to these groups, promote successful regulatory and policy approaches, and elaborate standards on financial access, financial literacy, and consumer protection. We commit to launch a G20 SME Finance Challenge, a call to the private sector to put forward its best proposals for how public finance can maximize the deployment of private finance on a sustainable and scalable basis." Among the goals of the G20 Financial Inclusion Experts Group are to initiate and stimulate the knowledge exchange about designing and implementing favorable regulatory frameworks; to support the dialogue between all relevant stakeholders internationally as well as nationally; and to collect relevant data.
3. G20 Leaders Statement, Los Cabos Summit, June 18-19, 2012, under section "Employment and Social Protection" #23. "We commit to taking concrete actions to overcome the barriers hindering women's full economic and social participation and to expand economic opportunities for women in G20 economies. We also express our firm commitment to advance gender equality in all areas, including skills training, wages and salaries, treatment in the workplace, and responsibilities in care-giving."
4. Alliance for Financial Inclusion, "Mexico's Engagement with the Standard Setting Bodies and Its Implications for Financial Inclusion," available at <http://www.gpfi.org/sites/default/files/documents/04%20Mexico.pdf>
5. A meta analysis of the literature on financial education interventions finds that financial literacy and capability interventions can have a positive impact in some areas-such as increasing savings-but not in others, such as credit default (Miller et al., 2014). For example, a financial literacy intervention was provided to Filipino foreign domestic workers in Singapore, and no effect was found on financial knowledge, savings, or remittance behavior; assignment of a financial education class surprisingly had a negative effect on saving outcomes among female migrants (Barua et al., 2012). Another study provided financial literacy training to migrants in Australia and New Zealand, which appeared to increase financial knowledge and information-seeking behavior and reduce the risk of switching to costlier remittance products-but did not find an impact on either the frequency or level of remittances (Gibson et al., 2012). A field experiment in Indonesia provided a financial literacy program to future migrants and evaluated its effects on financial knowledge, behaviors, remittance, and savings outcomes. This study found that training both the migrant and the family had a larger impact than training the family alone, suggesting the value of exploiting a teachable moment to provide financial information (Doiet al., 2012).

FOCUS:

THE INCREASING IMPORTANCE OF REMITTANCES

USE OF ACCOUNTS FOR FAMILY REMITTANCES

Adults using a formal account in the past year to transfer money to or from relatives living elsewhere (%)



Demirgüç-Kunt, A. and L. Klapper, 2013. "Measuring Financial Inclusion: Explaining Variation in Use of Financial Services across and within Countries." *Brookings Papers on Economic Activity*, 279-340.

Remittances are household income received from family members and friends who have migrated domestically or internationally for work. They can be sent in cash, in kind, or more commonly by some form of electronic or digital transfer, through a variety of formal and informal channels. A review of recent academic studies makes clear that remittances, including south-south transfers, play an increasingly important role in the financial lives of people in low-income countries:

- Since the late 1990s, remittances sent home by international migrants have exceeded official development assistance and portfolio investment, and in several years have approached the magnitude of the flow of foreign direct investment (Yang, 2011).
- Global international remittances in 2012 are estimated at \$514 billion (U.S.), a 10.77 percent increase from 2011, including \$401 billion sent to developing countries (World Bank, 2014b).
- As remittance volumes have grown, the private sector has responded to provide payment services, such as money transfer operators (MTOs) like Western Union and MoneyGram, as well as banks and other financial institutions, mobile phone operators, and payment card providers such as MasterCard and Visa (Orozco, 2004; Orozco et al., 2010).
- While international remittances dominate the global dialogue about migration and development, they are only part of the conversation. Globally, Gallup, Inc. surveys in 135 countries reveal that households worldwide are three times more likely to get financial help from individuals within the same country (9 percent) than from outside the country (3 percent). In 43 countries, 10 percent or more of the adult population report receiving money or goods from someone living inside their country (Gallup, 2014).
- Likewise, more than 14 percent of adults surveyed in Sub-Saharan Africa and Asia reported sending money within the country in the previous 30 days (compared to 1 to 2 percent internationally), and 32 percent reported receiving money sent from within the country in the previous 30 days (again compared to 3 percent internationally) (Kendall et al., 2012; Kendall et al., 2013).

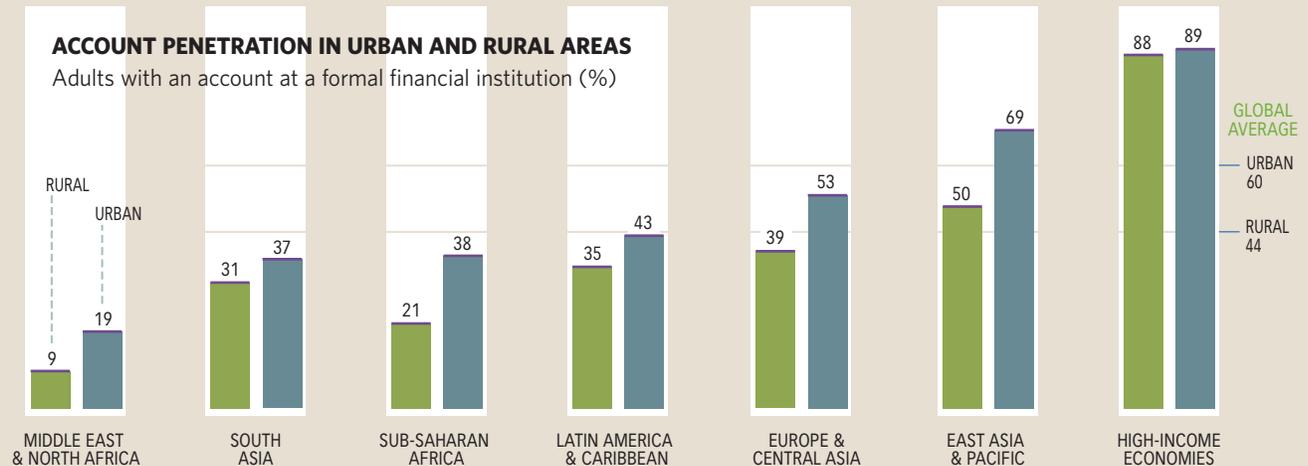
It is further clear that facilitating this process could be of enormous benefit to poor people in emerging markets (Clemens and Ogden, 2014):

- Moving to cities causes very large income gains for rural workers, and workers who move from a poor country to a rich country can experience an earnings increase of hundreds of percent (Clemens et al., 2008; Gibson and McKenzie, 2012), even for exactly the same tasks (Ashenfelter, 2012).
- Having a family member overseas typically produces large increases in the living standards of the origin household (Yang, 2008; Gibson and McKenzie, 2010).
- Data on remittance flows to 109 developing countries over more than 30 years shows a significant and robust link between remittances and financial development (Aggarwal et al., 2011). Furthermore, a study in Mexico finds that remittances are strongly associated with greater banking breadth and depth, increasing the number of branches and accounts per capita and the amount of deposits to GDP (Demirgüç-Kunt et al., 2011).
- While evidence on the relationship between remittances and country-level economic performance is inconclusive (Clemens and McKenzie, 2014), remittances have been shown to have an impact on the receiving household's investment in businesses and ability to exit poverty status—but not on household consumption (Yang, 2008; and Yang and Martinez, 2005).



FOCUS:

EXPANDING ACCESS TO DIGITAL PAYMENTS IN RURAL AREAS



Demirgüç-Kunt, A. and L. Klapper, 2013. "Measuring Financial Inclusion: Explaining Variation in Use of Financial Services across and within Countries." *Brookings Papers on Economic Activity*, 279-340.

Digitizing remittances can have an especially large impact on reducing costs in rural areas. More than 40 percent of international remittances are sent to rural areas (IFAD, 2013). Most domestic remittances go from urban to rural areas, where fewer financial institutions operate. Leveraging postal networks, mobile payment providers, and micro-finance branch networks can offer unbanked rural residents access to formal payment and saving services beyond traditional brick-and-mortar bank branches. A review of recent studies suggests the potential impact (IFAD, 2013):

- In six West African countries, the cost of sending remittances through the postal network was reduced up to 50 percent in 355 rural localities after local post offices were provided with simple computers, point-of-sale [POS] terminals, and telecommunications equipment. In Cameroon, the cost of domestic remittances has been reduced by 20 percent in 24 rural areas, following the development of a new electronic money transfer system. These cost reductions are driven by substantial innovations to the postal network and might also be driven, in part, by the increase in competition in the remittance payment market.
- FINCA International issued 3,000 debit cards and piloted the use of POS terminals in its branches in rural Uganda, providing cheaper, faster remittance transfers. After the rollout of the cards, FINCA International opened more than 2,100 new savings accounts, mobilizing \$90,000 (U.S.) in formal savings; 60 percent of new savers had previously relied on informal modes of saving, or did not save at all prior to receiving a card.



FOCUS:

FOUR PRINCIPLES FOR PRIVATE SECTOR ENGAGEMENT

Of the nine G20 principles of innovative financial inclusion four give direction on private-sector engagement:

PRINCIPLE 2

Diversity

Implement policy approaches that promote competition and provide market-based incentives for delivery of sustainable financial access and usage of a broad range of affordable services (savings, credit, payments and transfers, insurance) as well as a diversity of service providers.

PRINCIPLE 3

Innovation

Promote technological and institutional innovation as a means to expand financial system access and usage, including addressing infrastructure weaknesses.

PRINCIPLE 4

Protection

Encourage a comprehensive approach to consumer protection that recognizes the roles of government, providers, and consumers.

PRINCIPLE 6

Cooperation

Create an institutional environment with clear lines of accountability and coordination within government; and also encourage partnerships and direct consultation across government, business, and other stakeholders.

Source: G20 Financial Inclusion Experts Group ATISG Report, 2010



